

Title (en)  
Aqueous coating systems on the basis of physically dry urethane acrylates

Title (de)  
Wässrige Beschichtungssysteme auf Basis physikalischer trockener Urethanacrylate

Title (fr)  
Systèmes de revêtement aqueux à base d'acrylate d'uréthane physique sec

Publication  
**EP 2218739 B2 20200422 (DE)**

Application  
**EP 10001017 A 20100202**

Priority  
DE 102009008949 A 20090213

Abstract (en)  
[origin: EP2218739A1] Radiation curable, polyurethane acrylate based on aqueous dispersion (I), comprises, as structural components: (a) oligomeric or polymeric compound; (b) optionally monomeric compound with (meth)acrylate group, different from (a); (c) polyester polyol, obtained from (c1) diols and/or -triols, and (c2) di- and/or tricarboxylic acids; (d) optionally polyol, different from (a)-(c); (e) a compound with counter isocyanate-reactive group and non-ionic or ionic groups; (f) organic polyisocyanate; and (g) optionally compound with counter isocyanate-reactive group, which are different from (a)-(e). Radiation curable, polyurethane acrylate based on aqueous dispersion (I), comprises, as structural components: (a) one or more oligomeric or polymeric compound containing at least one counter isocyanate-reactive group and at least one radically copolymerizable group; (b) optionally one or more monomeric compound with hydroxy function and at least one (meth)acrylate group, where (b) is different from (a); (c) polyester polyol, obtained from (c1) 2-4C aliphatic diols with two hydroxy functions and/or aliphatic triols, and (c2) aromatic di- and/or tricarboxylic acids; (d) optionally polyol, different from (a)-(c); (e) one or more compound with at least one counter isocyanate-reactive group and additionally non-ionic or ionic or groups for forming ionic groups that exhibit an effect of dispersing (I); (f) organic polyisocyanate; and (g) optionally compound containing at least one counter isocyanate-reactive group, which are different from (a)-(e). Independent claims are included for: (1) preparing (I) comprising reacting (a)-(e) in one or more reaction steps with (f), preferably polyurethane acrylate prepolymer, where a neutralizing agent is added for producing ionic groups necessary for dispersing process, before, during or after the prepolymer production, followed by a dispersing step comprising adding water to the prepolymer and/or transferring the prepolymer in an aqueous template, before, during or after dispersing a chain extender, using (g); and (2) a coating agent comprising (I), a crosslinker based on amino resins, blocked polyisocyanates, non-blocked polyisocyanate, polyaziridines, polycarbodiimides, and/or one or more other dispersions.

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Cited by  
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